



T3035II

Operator's Manual



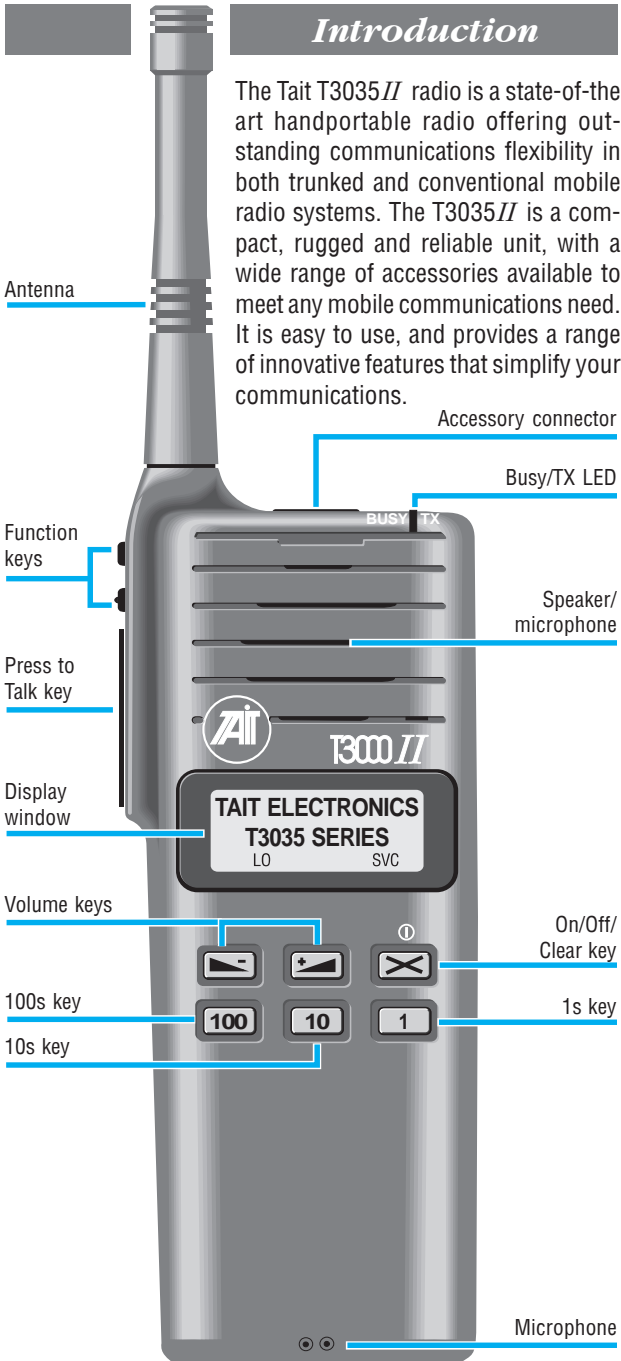
Contents

Introduction	3
Operating Modes	4
Warnings	4
Features	5
Components	5
Setup	6
Basic Operations	6
Controls	7
Keypad	7
Side Panel Keys	7
Display Window	9
Switching the Radio On and Off	9
Switching On	9
Switching Off	10
Adjusting the Volume	11
Normal and Handset Operation	11
Normal Operation	11
Handset Operation	12
VOX Operation	12
Trunking Call Operations	13
Making a Call	14
Dialling	15
Receiving a Call	16
Normal Call	16
Group Call	17
Caller Identity Display	17
Calling Procedure	18
Reestablishing a Call	19
Using Redial	19
Using Callback	19
Unanswered Calls	20
Emergency Operation	20
Conventional Radio Operations	21
Selecting a Channel	22
Receiving	22
Monitor Key	22
Transmitting	23
CTCSS Calls	23

Special Features	24
Status Calls	24
Transmitting a Status Call	24
Editing Group Membership	25
Scrambler Operation	27
Function Key Options	28
Recharging the Battery	30
Mounting the Radio in the Charger	30
Mounting the Battery in the Charger	31
Recharging	32
Maintenance and Troubleshooting	33
Maintenance	33
Care of Your T3035 <i>II</i>	33
To Preserve Battery Life	33
Avoiding High Temperatures	34
Troubleshooting	34
Appendix I Indications	35
Display Window Indicators	35
LED Indicator	36
Appendix II Audible Indicators	37
Appendix III Display Window Messages and Indicators ..	38
Appendix IV Trunking Call Set-Up and Special Functions	41
Trunking Operation	41
Telephone Calls	42
Special Trunking Functions	42
Appendix V Preset Options	44
Appendix VI How to Care for Your Tait Rechargeable Batteries	46
Types of Batteries	46
New Batteries	46
Battery Use	47
Battery Charging	47
Battery Problems	48
Battery Storage	49
Disposal of Used Nickel Cadmium Batteries	49
Optional Accessories for the T3000 <i>II</i> range of radios	50

Introduction

The Tait T3035II radio is a state-of-the-art handportable radio offering outstanding communications flexibility in both trunked and conventional mobile radio systems. The T3035II is a compact, rugged and reliable unit, with a wide range of accessories available to meet any mobile communications need. It is easy to use, and provides a range of innovative features that simplify your communications.



Operating Modes

Your T3035II can be used either in Trunked Call mode, or as a conventional radio. In Trunked Call mode, you communicate with other radios, PABX systems and outside (PSTN) telephone lines through the trunking network. In Conventional mode, radios communicate directly with each other over standard channels. To switch from Trunked Call to Conventional mode, you simply enter the channel number (between 101 and 110) and press the PTT key. Return to Trunked Call mode by pressing the Clear (X) key or entering a call number for a trunked party, using the digit keys.

A scrambler is also available to give you added privacy during both trunking and conventional calls. The scrambler is of the voice inversion type and offers a moderate level of security.

If your radio is set to operate in Conventional mode, it may also have the CTCSS option fitted. CTCSS is a tone-based system that isolates your calls so that you only talk with a single group even though other users may be on the channel. It does this by screening out radio traffic that does not carry the correct CTCSS signal.

Warnings

WARNING

(EXPLOSIVE ENVIRONMENTS):

DANGER: SWITCH THE RADIO OFF AT PETROL FILLING STATIONS

DANGER: SWITCH THE RADIO OFF IN THE VICINITY OF EXPLOSIVE DEVICES (such as in a quarry that uses blasting techniques)

WARNING

(USERS IN THE UNITED KINGDOM):

DO NOT OPERATE RADIO WHILE DRIVING

Use of a handheld microphone or radio by the driver while in the act of driving contravenes Section 3 of the Radio Traffic Act. An offender could be charged under this Act with driving without due care or reasonable consideration to other road users.

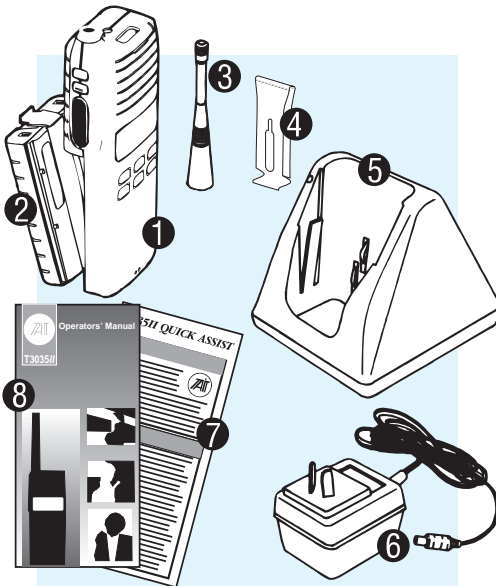


Features

- Small, Rugged, Reliable
- Handset Operation
- Easy to Use
- MPT1327 Trunking

Components

When you receive your T3035II radio check the contents to make sure that all the items you ordered are included. Typically, you should receive the following.



1. T3035II radio unit
2. Battery pack
3. Antenna
4. Belt clip
5. Charger
6. Plug pack (pins may vary to suit each country)
7. Quick Assist card
8. Operator's manual

If any parts are damaged or missing, report it to the delivery company immediately.

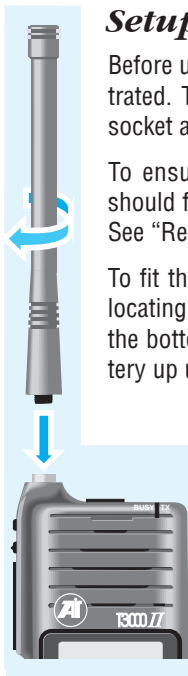
Setup

Before using the radio, insert the antenna as illustrated. The antenna should screw easily into the socket at the top of the radio.

To ensure proper operation of your radio, you should fully charge the battery prior to initial use. See “Recharging the Battery” for instructions.

To fit the battery pack, offer it up to the chassis, locating the peg on its bottom edge in the slot at the bottom of the radio’s chassis. Hinge the battery up until the spring latch clicks into place.

The first time you switch the radio on, factory settings are in effect. You may want to change some of these settings immediately, such as the volume level. Review this manual first, and make any necessary changes after referring to the appropriate section. Enter your current settings in the form provided in Appendix V.

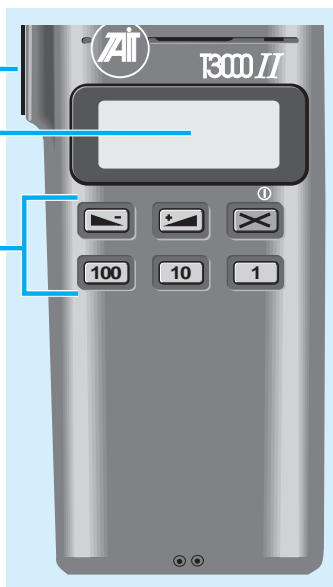


Basic Operations

PTT key

Display window

Keypad





Controls


The T3035II controls include the keypad, side panel keys, LCD window and the LED operations indicator.


KEYPAD


Keypad functions are as follows:

 **On/Off/Clear** Use to turn the radio on and off, to end calls and to exit from control options. The ON/OFF key also serves as a clear key.

 **Volume** Use to decrease or increase volume.

 **100** Selects the hundreds digit of a call number. Each press increases the number count by one. When the displayed number reaches 9 it rolls back to 0 and continues through 1, 2, 3 and so on.

 **10** Selects the tens digit of a call number. Each press increases the number count by one. When the displayed number reaches 9 it rolls back to 0 and continues through 1, 2, 3 and so on.

 **1** Selects the ones digit of a call number. Each press increases the number count by one. When the displayed number reaches 9 it rolls back to 0 and continues through 1, 2, 3 and so on.

SIDE PANEL KEYS

 **F1** Function key 1.

 **F2** Function key 2.

Use to initiate special preprogrammed functions.



PTT

Press To Talk key. Use to make the radio transmit each time you talk. This key is preprogrammed to initiate a call once you have a call number displayed.

The function keys above the PTT key can be preprogrammed by your dealer to perform any of the following functions:

- Operate as a Clear key
- Enter or leave Handset mode
- Turn on backlighting momentarily
- Enter or leave Low Transmit Power mode
- Switch an auxiliary device on or off
- In Conventional mode, switch the Monitor facility on or off
- Initiate a preset call¹ (such as an emergency call)
- Enable or inhibit the key press confirmation tone
- Lock the keypad to prevent the accidental operation of some keys
- Set the radio into Quiet Mode, where all incoming calls are automatically rejected
- Enable or inhibit backlighting for the display window and keys each time the radio is activated
- Activate an external microphone, speaker or combination microphone/speaker fitted to the options connector.

Only two of these functions can be active in any radio; if you are not sure which functions have been preprogrammed for your radio, consult your fleet manager.

¹ It may be necessary to hold the key for one second for the call to be initiated.

DISPLAY WINDOW

The LCD window is optimised to provide rapid access to information and messages concerning the progress of your call and the status of your radio.

Note: Your T3035// features the ability to display messages in several languages.

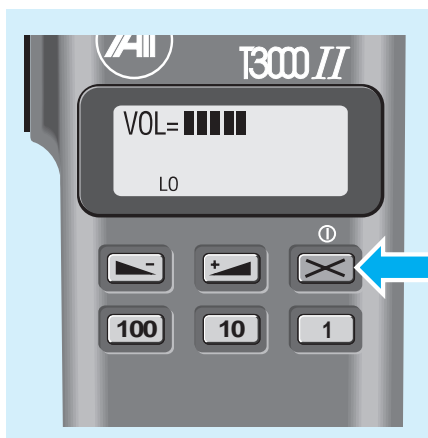


Switching the Radio On and Off

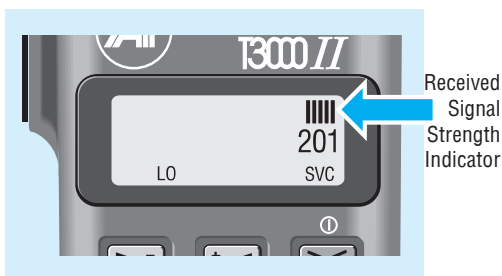
SWITCHING ON

Switch the radio on by pressing the ON/OFF (\times) key and holding it briefly until you hear two short tones. If the radio was last used in Trunking mode, this is followed by another two tones as it enters Trunking mode and its electronic identity appears, followed by a power-up message.

The current volume setting is displayed next. The number of bars indicates the setting, with a maximum of ten. (To change this setting, see “Adjusting the Volume.”)



The final display shows the Received Signal Strength Indicator (RSSI) in the upper right-hand corner, the last number dialled (or the call queue, if there are entries), and the Service indicator (SVC).



If the Service indicator is on continuously, your radio has access to a trunking network and is ready to make or accept calls. If it is blinking, your radio does not currently have access to a network. It may be attempting to find a site it is authorised to use, or it may be out of range of a network signal.

If the Service indicator does not appear at all, the radio is in Conventional mode.

The Received Signal Strength Indicator (RSSI) shows one bar for the weakest signal and five bars for the strongest. If the display shows no bars, the signal may have become unreliable and the SVC indicator may begin to flash. If the indication shows you have a poor signal (none, one or two bars showing) it may help if you move a few metres. You should also hold the T3035II upright to maximise the received signal.

SWITCHING OFF

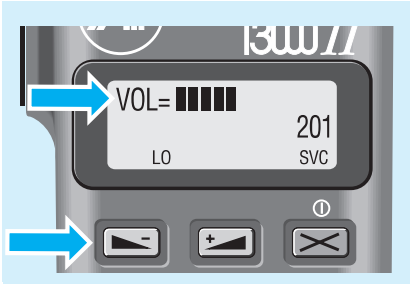
Switch your radio off by pressing the ON/OFF (\times) key and holding it briefly, until the display goes blank. If Key Beeps is enabled, a tone will sound before the radio shuts off.

Your T3035II retains its volume and some other settings when it is turned off. When you next turn it on, it uses these settings.

Note: If you have a call in progress, the radio will not switch off on the first press of the ON key; the call will simply be terminated. A second press is then required to switch the radio off.

ADJUSTING THE VOLUME

The volume display shows the current setting as a series of bars. If this is the first time you have used the radio, adjust the volume level to about the middle of its range (5 bars showing) using the Volume Adjustment (◀-, +▶) keys.



You may need to adjust the volume level for speech when you receive your first call. Note that the volume level of the confidence tones is also affected by the volume control.

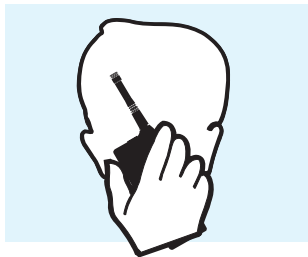
Normal and Handset Operation

Your T3035II is designed so that you may use it as a normal two-way radio or like a telephone handset.

NORMAL OPERATION

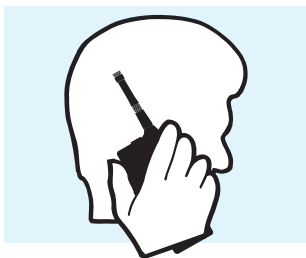
To use the T3035II as a normal radio as shown in the diagram, hold it with its microphone about 15 cm from your mouth.

Press the Press To Talk (PTT) key and speak clearly, in a normal voice. The Transmit (Busy/TX) indicator illuminates each time you operate the key. When you have finished talking, release the key to hear a reply and the indicator will turn off.



HANDSET OPERATION

To use the T3035II like a telephone handset, select handset mode using a pre-programmed function key. The Handset (H.SET) indicator appears in the display window and the speaker volume is reduced; otherwise, the radio operates normally.



Lift it to about 15 cm from your face with the speaker beside your ear and the bottom of the radio beside your mouth as shown. Press and hold the PTT key each time you speak, as described above.

CAUTION: DO NOT hold the radio with its antenna close to or touching any part of your body, especially your face and eyes, when transmitting. Always hold the radio upright and approximately 15 cm from your head which will ensure that the radio achieves maximum operating range.

VOX OPERATION

An option board may be fitted to your T3035II to provide automatic transmission while you speak - Voice Operated Switching or VOX. With this option fitted you no longer need to operate the PTT key each time you speak.

If fitted, VOX operation may be selected with a preprogrammed function key. The AUX indicator appears in the display whenever it is active. Once activated, automatic transmission will only occur once a trunking call has been established, and is not available in Conventional mode.

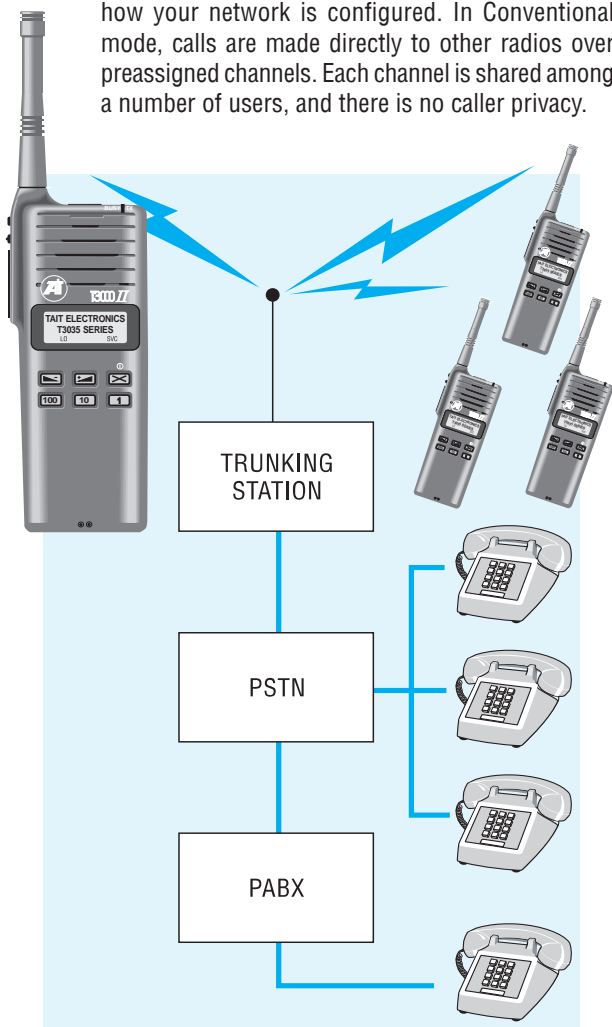
VOX operation can be affected by noise in the environment around you; the more ambient noise, the more likely the radio is to transmit even when you are not speaking. The most reliable operation will be obtained if VOX operation and handset operation are used together.

To cancel VOX operation, press the preprogrammed function key once more. The AUX indicator will disappear from the display.

Trunking Call Operations

Your T3035II is able to switch between Trunking and Conventional calling mode. Trunking mode is the preferred operating mode because it provides access to your radio's most advanced features.

In Trunking mode, all calls are through the trunked network. You can make calls to other radios that have been assigned numbers in your network, and you may also be able to make calls to PABX and PSTN numbers, depending upon how your network is configured. In Conventional mode, calls are made directly to other radios over preassigned channels. Each channel is shared among a number of users, and there is no caller privacy.



This section describes the operations you can perform in Trunking mode. Note that there are two sets of confidence tones available during preprogramming; the MPT set and the Tait set. This manual describes only the Tait set, which is the default.

Making a Call

Enter the number of the required party using the digit keys (see “Dialling” following).



After entering the number, press the PTT key to make the call. You will hear call setup tones, and the WAIT message may be displayed.

On some networks, a buzzing tone indicates that the called unit is ringing, and the display message changes to WAIT-RINGING.

When GO AHEAD is displayed you can begin speaking.



If your call is not connected, your radio will respond with one of the following messages.

Display	Tone	Called Party	Action
ENGAGED	Broken, low-pitched tone	Already engaged or does not accept your call.	Call again later.
CALL QUEUED	Steady whistle	Not available, but their radio has stored your callback identity.	Wait for call back ² .
NOT HOME	Single low-pitched tone	Turned off, in do-not-disturb (Quiet) mode, or out of range.	Call again later.
WAIT-IN QUEUE	Broken Tone	Already engaged, or the network is unable to immediately connect your call.	Wait. Call will be connected as soon as the network is able to do so.
SYSTEM BUSY	Single low-pitched tone.	Network is busy.	Call again later.
UNOBTAINABLE	Single low-pitched tone	Dialled number not supported by the network.	Check the number you dialled.

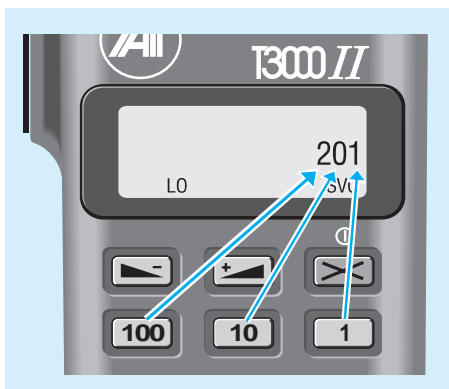
DIALLING

Your radio can be configured to dial numbers in a variety of ways, depending upon preprogrammed options and network capabilities. You can call other radios, groups of radios in your fleet, and PSTN/PABX (telephone) numbers. The actual number that you dial may be a direct access number, either using the digit keys or a preprogrammed function key. For more information see Appendix IV "Trunking Call Setup and Special Functions".

You use the digit keys to select the number you wish to dial. The ones (1) key dials numbers from one to nine. The tens (10) key dials numbers from 10 to 90 (in steps of 10) and the hundreds (100) key dials numbers from 100 to 900 (in steps of 100).

² If the receiving radio can only hold one callback identity, yours may be replaced with an intervening call if the recipient does not call you back directly.

Press each of the keys in turn until the number you want appears in the display. Holding the keys pressed causes the numbers to scroll rapidly from one to nine and wrap back to zero.



Receiving a Call



Depending on your network and how your T3035II is preprogrammed, the radio will indicate that you are receiving a call by a ringing tone. The incoming call may be either a normal call or a group call.

NORMAL CALL

A ringing tone sounds from the speaker and the display indicates the caller's identity.

Accept the call by momentarily squeezing the PTT key. You may then hear the call setup indicator (three short tones), and see the WAIT message briefly. On most networks the GO AHEAD message appears immediately.

If you do not want to accept the call, press the Clear (\times) key. The call is cancelled.

GROUP CALL

Two short tones sound and the caller's identity is displayed followed by a GO AHEAD message. The caller will then broadcast a message to all members of your group. It is not normally necessary for you to reply.



CALLER IDENTITY DISPLAY

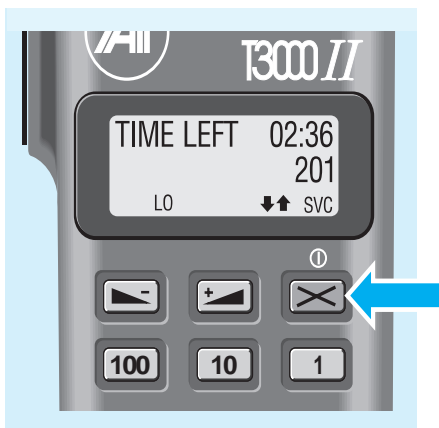
The caller's identity is shown in the middle line of the display window in one of the following forms. A "G" is also displayed if this is a group call, or an "E" if it is an emergency call.

Message Type	Example	Explanation
Call Number	23	The calling party is in the same fleet as your radio.
System Message	O-FLEET	The calling party is not in the same fleet as your radio.
System Message	PHONE	A call from the PSTN (Public Switched Telephone Network).
System Message	PABX	A call from the PABX (Private Automatic Branch Exchange).

Calling Procedure

When you have established a connection, hold the radio with its microphone about 15 cm from your mouth and press the PTT key. Pause briefly³, then speak clearly and release the key when you have finished talking. Remember to say “Over” when you finish speaking, so that the other party knows that you have finished. Similarly, wait for the other party to say “Over” before you begin speaking.

When you have finished conversing, end the call by pressing the Clear key.



The length of a call may be limited by the network, or by your radio. Normally, your radio displays the time remaining for the call, in seconds. Depending upon the network and call type, the display may show time used, or there may be no time display at all.



The network (or your radio) may also end the call if neither you nor the other party transmits for some time.

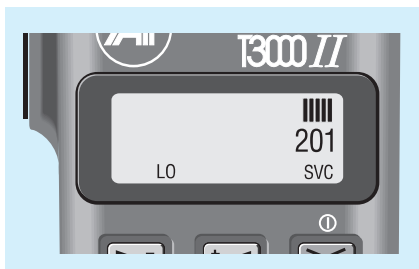
Your radio normally sounds a series of five quick tones just before it ends the call.

Reestablishing a Call

When a call has been ended, and no other function is active, your T3035II displays the identity of the last party with which you were conversing. This enables you to easily reestablish the call. If you initiated the last call, this is termed Redial. If the other party initiated the call, and your radio is able to identify its number, it is Callback.

USING REDIAL

When an outgoing call is terminated, the called party's identity is stored and displayed.



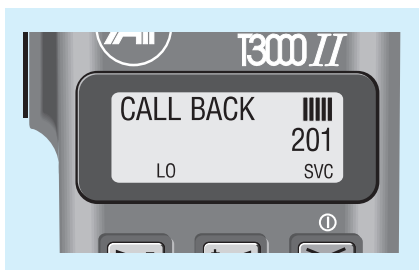
To redial this party, you can press the PTT key.

After dialling, the call proceeds normally.

USING CALLBACK

Note: This option may not be installed on your radio.

When an incoming call is terminated, the caller's identity is stored. The radio displays the message CALLBACK, and the identity of the calling party.



To call this party back, briefly press the PTT key. The call then proceeds normally.

Note: You can discard the incoming caller's identity by pressing Clear (X). The display then shows the last number you called.

Unanswered Calls

If you are unable to answer an incoming call, your T3035II can automatically store the identity of the incoming caller. Only the latest received call is stored.

An unanswered call is displayed with the message CALL FROM and the calling party's identity (a number or label). The radio also emits a broken, warbling tone.

Any status message they may have included is shown on the second line of the display.



To return an unanswered call, simply press the PTT key.

Emergency Operation



The T3035II can be pre-programmed with an emergency call number. Selecting this number calls a preprogrammed party (usually your base or dispatcher), taking priority over all other calls on the network.

The emergency number may be directly accessible on one of the function keys. If the radio is used in a vehicle with the Tait Mobile Conversion Kit, it may also be connected to a hidden emergency switch, which can initiate the emergency call directly.

To make an emergency call, dial the emergency preset number, press the appropriate function key or, if provided, use the hidden switch.

The radio sends a message to automatically alert the called party that you are in distress. You may still need to inform them of your location and any other relevant information to receive assistance.

Conventional Radio Operations

Subject to approval by your radio licensing authority, you can use your T3035II as a conventional two-way radio where it is not appropriate to use it on a trunking network. Up to 10 channels (from 101 to 110) may be preprogrammed for conventional operation.



Selecting a Channel

To activate Conventional mode, enter the channel number you wish to use (between 101 and 110) using the digit keys and press the PTT key. The display window shows the channel number selected—for example, CHANNEL 105.



To return to Trunking mode, press the Clear (\times) key, or enter a call number for a trunked party using the digit keys.

Receiving

Your radio remains muted until another user makes a call. When you hear activity, listen for your own call-sign. When you hear your call-sign, reply promptly, identifying yourself by your call-sign (for example “Mobile-9 receiving”).

Monitor Key

One of the function keys may be preprogrammed to operate in Conventional mode as a monitor key. The monitor key disables muting options installed on your radio.

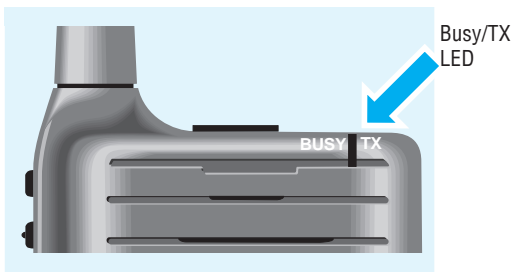
There are two types of muting control that may screen your calls:

- | | |
|-------------------|--|
| RF squelch | Permits reception only of calls with signal strengths above a factory-set threshold. This ensures that only signals which will be intelligible are made audible. |
| CTCSS mute | Permits reception only if a call carries an inaudible tone specific to your fleet or group. |

Note: RF Squelch is always programmed to operate in your radio. The CTCSS mute may also operate, but only if your radio is fitted with this option.

The BUSY indicator lights a continuous green whenever there is any activity on the channel. Only a portion of this activity

may be audible, depending on which muting control options your radio has fitted.



To override CTCSS muting, press the monitor function key. The BUSY indicator flashes green and a short high-pitched tone sounds.

If you are not sure if your T3035 *II* has been preprogrammed with this facility, consult your fleet manager or Tait dealer.

Transmitting

If the BUSY indicator is lit continuously green, the channel is busy and you should wait until it is free before proceeding. Your radio may be preprogrammed to prevent you from transmitting if the channel is busy (your fleet manager or Tait dealer will advise you if this is so.) If it is, and you attempt to transmit while the channel is in use, the speaker sounds a warning tone.

Press the PTT key and speak clearly, identifying yourself and the person you wish to contact by your call signs (for example, “Mobile-8 to Mobile-9”). Release the PTT key when you have finished talking.

The radio is fitted with a timer to limit the maximum length of transmissions. When this limit is reached, the radio sounds a sequence of short warning tones before it stops transmitting.

CTCSS Calls

The CTCSS option isolates your calls so that you only talk with a single group even though other users may be on the channel. It does this by screening out radio traffic that does not carry the correct CTCSS signal. CTCSS is automatically available on any Conventional mode channel for which it has been preprogrammed. Only one CTCSS tone can be used, but it may be applied to more than one channel.

Transmitting and receiving using CTCSS is the same as transmitting and receiving using normal Conventional mode.

Special Features

Most special features must be enabled during programming to allow you to use them. Of these features, only low power is available in Conventional mode.

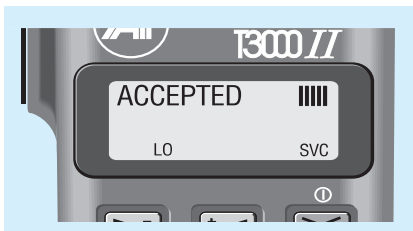
Status Calls

Status calls permit rapid exchange of simple messages without voice conversation. Your radio can have a number of short messages preprogrammed, for you to send in a variety of situations. Your status message could be “Enroute,” “At Lunch,” or “At Home”, for example.

TRANSMITTING A STATUS CALL

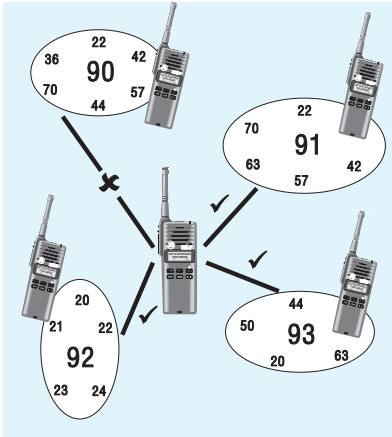
You may send a status message along with a normal preset call, but the call must have been preprogrammed with the status message appended to it. There are 30 status numbers available, each of which may be associated with a simple message.

Enter the preset number using the digit keys and press the PTT key. Your display shows ACCEPTED when the called party’s radio receives your message.

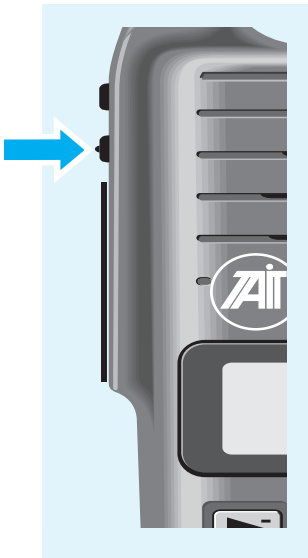


Editing Group Membership

Your fleet may be set up with users allocated to several groups. This allows a user to send a message simultaneously to a number of people with a related interest or activity.



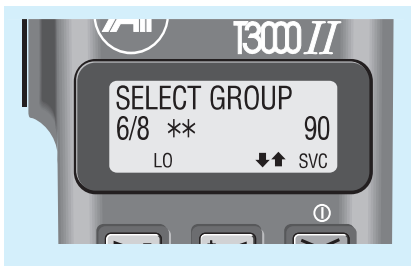
Using special key sequences on your T3035II, you may join or withdraw from groups preprogrammed into your radio. (If you are not sure which groups exist in your fleet and what their functions are, you should consult your Fleet Manager.)



Changing group membership affects only the reception of messages. You may send messages to any group simply by dialling its number (see Appendix IV "Trunking Call Setup and Special Functions").

To see which groups you currently belong to, turn your radio off and then back on whilst holding the F2 [-] function key pressed.

The display now shows you how many groups you belong to, how many are available to you and the number of the first one.



To scroll through the possible groups press the units (1) and / or the tens (10) keys. (If your dialling scheme provides for only two digits the tens key may select the groups containing numbers from outside your own fleet, indicated with a "G".)

When you find a group which you wish to join or to withdraw from, press the hundreds (100) key. This will either insert or remove a star from the display unless you are a permanent member of the group.

The second line of the display gives you information about each group as follows:

Message	Example	Explanation
X/Y	6/8	Shows how many groups you currently belong to and the maximum number available to you. The example shows membership of 6 out of a possible 8 groups. If you attempt to join a group when there are none left available the radio will emit 4 short beeps. (Your T3035 II allows you access to up to 8 groups.)
No Star Symbol		No star indicates that you do not currently belong to the displayed group. Press the hundreds (100) key to join the group. The radio will emit two long beeps if this choice is accepted.

Message	Example	Explanation
Star Symbol	*	Shows that you belong to this group. To withdraw from it press the hundreds (100) key. The radio will emit two long beeps if this choice is accepted.
Double Star Symbol	* *	Shows that you belong to this group but may not withdraw from it. If you attempt to do so, the radio will emit four short beeps.
Group number	90 G1	Shows the calling identity of the group. For groups within your fleet this number will be between 90 and 99 or 900 and 998 depending on your fleet size. For groups which span numbers outside your own fleet, a number between G1 and G8 will appear. Normally, you will not be able to change your membership of these 'G' groups.

To exit the Edit Group option press the Clear (⌘) key and the radio reverts to normal operation.

Scrambler Operation

Your radio may have a scrambler option board fitted to add an additional level of privacy to your conversation. However, it is only useful if the party you call has a similar scrambler fitted to their radio. The scrambler encodes transmissions so that, in the unlikely event that the radio traffic is overheard by someone-else, the voice sounds garbled.

If the party you call has no scrambler, or has theirs inactive, they will hear only a garbled message. You should consult your Fleet Manager to find out which other members of you fleet have scramblers and what your fleet policy for using them is.

Scrambler operation may be selected and cancelled with a pre-programmed function key. The AUX indicator appears in the display whenever it is active. Once selected, the scrambler functions continuously in both Trunking and Conventional modes.

Function Key Options

Your T3035II radio may be preprogrammed so that one or both of its function keys controls an operational feature in the radio. You can alter a setting by pressing the key once, and then restore the original setting by pressing it once again (except for keypad lock and preset call options).

Note: Function key options must be enabled during programming.

The following table describes the options that may be available.

Option	Description
AUXILIARY	The Auxiliary option turns an installed device on or off.
BACKLIGHT ON⁴	The Backlight On option turns on backlighting for the display and keys for a few seconds.
CLEAR	The Clear key lets you abort calls while they are still being set up, reject incoming calls, leave calls which are in progress and discard the call back or unanswered call number.
HANDSET MODE	Handset operation lets you use the T3035II just as you would a telephone handset. For more detailed information, see "Normal and Handset Operation."
KEY BEEPS	The Key Beeps option determines whether a tone will sound when keys are pressed. It does not affect the confidence tones (ringing, engaged and so on).
KEYPAD LOCK	<p>The Keypad Lock prevents accidental operation by locking the keypad so that only the ON, Clear, Volume adjustment and PTT keys are active. The function keys are also disabled unless they are programmed as additional Clear keys.</p> <p>Turn Keypad Lock on in the normal manner, using the assigned function key. The radio reverts to normal operation with the keypad locked. Keypad lock can be removed at any time by pressing the ON key and holding it for at least one half second.</p>

⁴ Selecting "BACKLIGHT ON" increases power consumption.

MONITOR	The Monitor option is used in Conventional mode and lets you override muting control if CTCSS is installed. For more detailed information, see "Conventional Operations".
NIGHT USE⁵	The Night Use option turns on backlighting for the display and keys. It is activated by a keypress or an incoming call. It will remain on for a short time after the call is completed.
PRESET CALL	The Preset Call option lets you call a pre-programmed number by pressing the assigned function key. For more detailed information, see "Making A Call".
QUIET MODE	The Quiet mode option lets you set your T3035// to automatically reject all incoming calls. This option only appears when the radio is operating in Trunking mode.
TX LOW POWER	The Transmit Low Power option lets you conserve battery power by reducing the output of your transmitter if you are near your targeted receiver. If all five of the bars in the Received Signal Strength Indicator are showing, it is likely that reception will be reliable at low power.
INTERNAL MIC EXTERNAL MIC	The microphone option lets you switch between an internal microphone on the front panel and an external one connected to the accessory connector.
INT.MIC/SPKR EXT.MIC/SPKR	The microphone / speaker option lets you switch between an internal microphone and speaker on the front panel and an external, combined microphone-speaker connected to the accessory connector.
INT. SPEAKER EXT. SPEAKER	The speaker option lets you switch between an internal speaker on the front panel and an external one connected to the accessory connector.

⁵ Selecting "NIGHT USE ON" increases power consumption.

Recharging the Battery

Under normal usage your radio battery can be expected to last approximately eight hours before it requires recharging. If you spend a lot of time transmitting, this time will be reduced; if you rarely transmit it may be considerably longer.

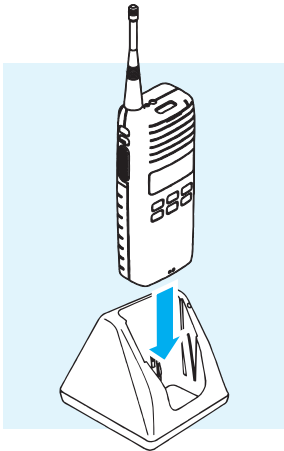
When battery voltage is low, the (TX / BUSY) indicator flashes red and the radio sounds a low-pitched beep every 20 seconds. You can continue using the radio, but you should recharge the battery as soon as possible to avoid reducing its life.

Note: Once the battery becomes too discharged to properly run the radio, the radio switches itself off.

The battery can be recharged while still attached to the radio, or it can be recharged separately.

Mounting the Radio in the Charger

1. Turn the radio *off* using the front panel ON/OFF (\times) key. (The radio may be left on, but, if using a trickle charger, full charge may not be achieved).
2. Place the radio, with its battery still fitted, into the charger.

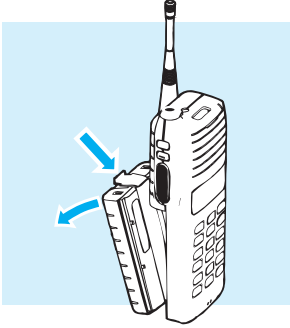


Note: Some Radio Regulatory Authorities forbid any transmissions while the radio is mounted in its charger.

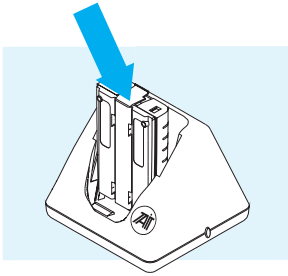
3. Recharge according to the “Recharging” instructions following.

Mounting the Battery in the Charger

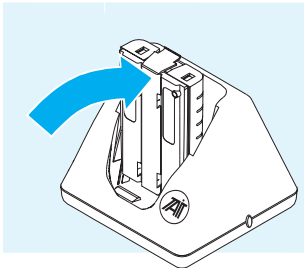
1. Turn the radio *off* using the front panel ON/OFF (\times) key.
2. Remove the battery pack from the back of the radio by pressing down the spring latch in the middle of the radio back panel. Hinge the battery pack away from the chassis until it comes free.



3. Place the battery in the charger pocket with the four silver contacts to the back. Lean the top forward as far as you can to seat the battery properly.



4. Tilt the battery back against the contacts until it snaps into place.



5. Recharge according to the instructions following.

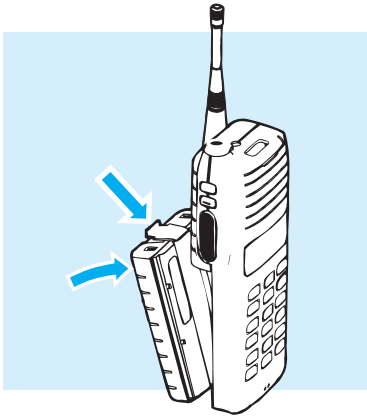
Recharging

To recharge using a Tait battery charger, perform the following steps:

1. Make sure the indicator at the top corner of the charger confirms that the battery pack is charging. If it does not illuminate red within a few seconds, check whether the battery is seated properly, the plug pack is properly connected to the charger and the mains outlet is switched on and live.
2. The battery pack (or radio) may be considered fully recharged when the indicator changes from red to green but it is recommended that the battery remain in the charger until it is required. (The T3001 trickle charger has no end of charge indication - it charges continuously.)

Note: Trickle chargers are not considered suitable for recharging high capacity (Nickel-Metal Hydride) battery packs.

To refit the battery pack, offer it up to the chassis, locating the peg on its bottom edge in the slot at the bottom of the radio's chassis. Hinge the battery up until the spring latch clicks into place.



Note: When using a trickle charger, recharging the battery pack with the radio attached *and* switched on will reduce the amount of charge the pack receives. To ensure that an exhausted battery pack is completely recharged, it should be charged for a full twelve hour period either separately, or with the radio switched off.

Maintenance and Troubleshooting

Maintenance

Your T3035II requires no regular maintenance, other than ensuring the battery has sufficient charge.

CARE OF YOUR T3035 II

- From time to time wipe the battery contacts and accessory connector contacts with a dry lint-free cloth to remove any dirt, oil or grease.
- To clean the radio's case use a cloth dampened with clean water.
- To remove difficult marks the cloth may be dampened with a mild liquid soap solution.
- **DO NOT** allow the radio to come in contact with detergents, alcohol, aerosol sprays or petroleum-based products as they may permanently damage the plastic case.

TO PRESERVE BATTERY LIFE

- Avoid storing the battery for extended periods without first fully recharging it.
- Avoid repeatedly recharging the battery when it has only had a small amount of use.
- Use only a Tait recommended charger.
- Maintain an ambient temperature of 5^o to 40^o C during recharging (optimum battery performance will be obtained between 15^o and 25^o C).

CAUTION: DO NOT allow the battery pack contacts to become short-circuited or dispose of the battery pack in a fire.

AVOIDING HIGH TEMPERATURES

If the radio is left in strong sunlight, or exposed to high temperatures, the display may temporarily darken. If the temperature exceeds 80° C, the radio will cease to function until the temperature returns to a safe level.

Additionally, the high capacity battery pack is fitted with a thermal cutout which prevents operation above 70° C. Temperatures above 90° C cause permanent damage.

Troubleshooting

If the display remains blank and no indicators light up when you turn the radio on, it is likely that no power is available.

If the radio turns on briefly then off again, or fails to operate properly, it is likely that the battery is discharged.

In either case, check the following:

- Is the battery firmly plugged into the rear of the T3035 *II*?
- Was the battery sufficiently charged after its last use?
- Is the battery charger working correctly?
- If using a high capacity battery pack, has it been subjected to very high temperatures⁶?

If all appears to be in order, or if the message ERROR XX appears in the display window, then contact your Tait dealer for assistance.

⁶ The high capacity battery pack is fitted with a thermal fuse which operates at temperatures exceeding 90°C and renders the pack unserviceable.

Appendix I Indications

The indications refer to the abbreviated messages which appear in the bottom of the T3035// display window, the RSSI and volume indications in the upper line of the display, and the LED indicator on the top front corner of the radio.

Display Window Indicators

- SVC** The Service indicator appears as the three characters SVC across the bottom of the display. There are three possible indications:
- Continuous** Your radio has access to a network and is ready to make or accept calls.
 - Blinking** Your radio does not currently have access to a network. It is attempting to find a site it is authorised to use, or it may be out of range of a network signal.
 - Absent** Your radio is in Conventional mode.
- HH.SET** The Handset indicator indicates that the radio is in Handset mode.
- AUX** Auxiliary indicates that your radio has an auxiliary device fitted and that it is active.
- LO** Low Transmit Power indicates that the radio is operating with its transmitter power reduced.
- VOL = ■■■■** The volume indicator shows the relative setting of the volume control. Full volume has 10 bars showing, lowest volume has one.
- III** The upper right corner of the display carries the RSSI (Received Signal Strength Indication) level. This appears only when the T3035// is in Trunking mode. Maximum signal is being received when five bars show, minimum signal is with one.

LED Indicator

The LED indicator at the top of the radio provides a variety of indications as displayed in the following table.

Indication	Condition	Meaning
Steady Red	TX	The radio is transmitting. This should occur each time you press the PTT key and automatically during call setup when another party calls you.
Flashing Red	Low Battery	This is accompanied by a low-pitched beep every 20 seconds. The battery is nearly completely discharged.
Steady Green	Receiver Busy	Your radio has detected some activity on the channel. (Conventional mode only.)
Flashing Green	Monitor Active	You turned muting off and are able to hear any traffic on the channel. (Conventional mode only.)

Appendix II Audible Indicators

Following are some of the audible indicators provided by your radio in addition to those shown on page 15.

High Temperature Warning

A series of high-pitched tones when the radio is transmitting. The radio automatically switches to low power but you should stop transmitting and allow it to cool down.

Battery Low

A series of low tones, with the LED indicator flashing red.

Radio Ready

Two pairs of sharp tones that sound first when the radio is turned on, then when it enters Trunking mode.

Queue Full

A high pitched repeating tone indicating that the queue is full and no further calls will be accepted for queuing.

Unanswered Call

A warbling tone notifies you that there is an unanswered call or a queued call waiting for callback. This does not sound if Call Queuing was turned on manually.

Incoming Call

A low pitched ringing tone indicates a call received by your radio. (There is a slight difference if the MPT tone set is selected.)

Transmit Timer

Three short medium-pitched tones. (Your message has exceeded a preprogrammed time-limit.) The radio stops transmitting. Release the PTT key before transmitting again.

Appendix III Display Window Messages and Indicators

The display window messages appear in response to various conditions. Unless otherwise indicated, they are located in the top line of the display.

ACCEPTED	Your status call or network service request is accepted.
CALL QUEUED	Your radio has reached the other party and they did not answer, but their radio has stored a message to call you back.
CALL FROM	Your radio has received a call from another party, and you have not responded to it. You can call that party back by pressing the PTT key.
CALL TIME Min:Sec	Duration of your call, in minutes and seconds.
CALLBACK	The display shows the identity of the party who last called and conversed with you. You can call them back simply by pressing the PTT key.
CHANNEL 1NN	Your radio is operating in Conventional mode with a channel between 101 and 110 selected. This message appears on the second line of the display.
ENGAGED	Your radio has reached the other party, but they are already engaged in another call. Call back later.
ERROR XX/ SWITCH RADIO OFF	Your radio has malfunctioned. Note the error number before switching the radio off for a few seconds and then back on. Consult your Tait dealer. This message uses both text display lines.
EXTERNAL MIC ON	A remote microphone is connected to the accessory connector and is active.
EXT.MIC/SPKR ON	A remote microphone/speaker is connected to the accessory connector and is active.
EXT.SPEAKER ON	A remote speaker is connected to the accessory connector and is active.

GO AHEAD	Your radio has established a call, and you are now able to converse.
INTERNAL MIC ON	The internal microphone is active.
INT.MIC/SPKR ON	The internal microphone and speaker are active.
INT.SPEAKER ON	The internal speaker is active.
KEYPAD LOCKED	The keypad is locked to prevent accidental entry, and must be released by using the ON/OFF (X) key.
NOT HOME	The network has been unable to reach the other party's radio because it is turned off or is out of range of the network.
O-FLEET	Your radio has received a call from another party that is not part of your fleet. This message appears on the second line of the display.
PABX	Your radio has received a call from another party via a Private Automatic Branch Exchange (most likely your company's switchboard). This message appears on the second line of the display.
PHONE	Your radio has received a call from another party via the Public Switched Telephone Network (PSTN). This message appears on the second line of the display.
QUEUING ON	Queuing mode has been turned on.
QUIET MODE ON	Quiet mode has been turned on.
SYSTEM BUSY	The network was unable to handle your call at this time. Call again later.
TIME LEFT Min:Sec	Time in minutes and seconds before this call is automatically ended. There is a five-beep warning eight seconds before you are disconnected.
UNAVAILABLE	The function that you requested is not available on this radio.
UNOBTAINABLE	The number you called is not recognised by the network. Check that you have dialled the correct number.

WAIT	The network is setting up your call.
WAIT - IN QUEUE	The network has not yet contacted the other party's radio but your call will be connected automatically as soon as possible.
WAIT - RINGING	The network is setting up your call, and has contacted the other party's radio.

The display window indicators appear in the second line of the display to indicate group or emergency call status.

G	(Group) Your radio has received a group call from another party. Listen for the message, but you may not need to reply.
E	(Emergency) Your radio has received an emergency call from another party. Listen carefully for the message and be ready to render all assistance possible. Answer if appropriate.

Appendix IV Trunking Call Set-Up and Special Functions

Some of the functions listed below may be unavailable on your network, and some may need to be enabled during pre-programming of your radio. For more information about the facilities available on your network or radio, please refer to your fleet manager or Tait dealer.

Note: Your T3035II has been preprogrammed so that you can initiate the call by pressing the PTT key.

Trunking Operation

Within your radio and network system, certain ranges of numbers have been set aside for specific purposes. The calling groups listed represent numbers that may be called by simply entering a preset call number and pushing the PTT key.

COMMON RADIO CALLS

Number Range	Call to
20...89	Radio in own fleet
200... 899	Radio in own fleet
90...99	Group in own fleet
900... 998	Group in own fleet
999	Emergency operator (if supported by network)

Some special functions may also be preprogrammed as preset numbers in the T3035II radio. Check with your fleet manager for further information about them.

Appendix V Preset Options

The following items may be preprogrammed in your radio:

- Status call messages
- Function keys
- Conventional channels
- Confidence tones
- Power-up message

In addition, your network may contain settings for the following items:

- A number to access your radio by telephone
- Preset individual and group radio numbers

Most of these items are obvious. You should keep a record of Function Key (and PTT) settings and any numbers not programmed in your radio.

Use the space below to record these items.

COMMONLY CALLED NUMBERS

Name	Number
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

ACCESS NUMBERS (THIS RADIO)

Prefix: _____ Fleet: _____ Identity: _____

Via PABX: _____ : _____

Via PSTN: _____ : _____

FUNCTION KEY SETTINGS

F1: _____

F2: _____

EMERGENCY CALL ALERTING

Name: _____ Number: _____

OPTIONS

Mark the items in the list of options below that have been installed or enabled in your radio.

- | | |
|---|---|
| <input type="checkbox"/> PABX calls | <input type="checkbox"/> Status calls |
| <input type="checkbox"/> PSTN calls | <input type="checkbox"/> Divert own calls |
| <input type="checkbox"/> Interfleet calls | <input type="checkbox"/> Do not disturb |
| <input type="checkbox"/> Interfleet group calls | <input type="checkbox"/> Direct despatcher calls |
| <input type="checkbox"/> ALLI calls | <input type="checkbox"/> Callback facility |
| <input type="checkbox"/> Abbreviated dialling | <input type="checkbox"/> MPT confidence tone set |
| <input type="checkbox"/> Conventional mode | <input type="checkbox"/> Tait confidence tone set |
| <input type="checkbox"/> CTCSS Option board | <input type="checkbox"/> VOX Option board |
| <input type="checkbox"/> Network service operator calls | |

Appendix VI How to Care for Your Tait Rechargeable Batteries

The following guidance is intended to help you get maximum life and trouble-free service out of your Tait rechargeable batteries.

Types of Batteries

There are two types of rechargeable battery available for your Tait handportable radio, Nickel Cadmium (NiCd) and Nickel Metal Hydride (NiMH). The NiMH is the higher capacity battery. Each type has slightly different charging requirements and should be handled accordingly (see “Battery Charging”).

Rechargeable batteries have a finite lifetime. Battery capacity reduces as the total number of charge and discharge cycles increases. A battery is considered to be approaching the end of its useful life when it can achieve no more than 80% of its rated full charge capacity. The number of charge and discharge cycles a battery can achieve depends upon its type and the way it is used. The lifetime of well cared for NiCd and NiMH batteries will be typically from twelve to eighteen months (400 to 600 cycles).

New Batteries

Before first use (or after prolonged storage) you should ensure that your new battery is properly charged. Otherwise the battery may not start with its full charge and will not perform correctly until it has undergone several charge and discharge cycles. It is recommended that you charge your batteries before first use as follows:

Tait Charger	NiCd	NiMH
Trickle (T3001, T3003)	For at least 12 hours ⁷ .	Not recommended.
Fast (T3002) or Rapid (T3004)	Until 2 hours after the green “full charge” light illuminates.	Until 2 hours after the green “full charge” light illuminates.

⁷ If a trickle charger is being used with the battery fitted to the radio during this first charge, ensure that the radio is turned off.

Battery Use

Both NiCd and NiMH batteries perform best when they are not repeatedly recharged after only short periods of use - ie the battery should be allowed to substantially run down before recharging. To ensure a long and trouble-free battery life it is recommended that you get into the routine of using the radio until the "low battery" indication appears, before recharging it fully.

If your application makes it inconvenient to follow such a routine, you should still ensure that the battery is fully discharged and recharged at least once every week. This can be done either by using a suitable charger with inbuilt discharge function (see "Battery Problems"), or by using the radio until it switches itself off and then recharging the battery fully.

Both types of batteries will also self-discharge - ie if the battery is charged and then left to sit without being used, it will gradually discharge by itself. NiMH batteries can self-discharge in less than one week if left in warm moist air. NiCd batteries self-discharge more slowly. To prevent self-discharge, batteries may be left in the charger, after the green "full charge" light has illuminated.

Battery Charging

Tait rechargeable batteries must only be charged using Tait specified charging equipment. There are several models of battery charger available which fall into two basic types, "trickle" and "fast".

Tait trickle chargers charge the battery slowly but do not sense when the battery has been fully charged. To avoid repetitive overcharging, it is important to avoid making a habit of recharging batteries after they have had only a small amount of use (see "Battery Use" above). Because of their susceptibility to damage from overcharging, it is recommended that NiMH batteries not be routinely subjected to trickle charging.

Tait fast chargers are fitted with a device that senses when the battery has reached full capacity and commences trickle charging thus eliminating the possibility of overcharging. They are therefore suitable for "topping up" partially discharged batteries of both types. Some models of fast charger (eg T3002) also have an inbuilt discharge function, which enables the battery to be periodically given a full discharge and charge cycle, quickly and without the need to use the radio to discharge the battery.

Battery Problems

NiCd batteries sometimes exhibit a symptom commonly called “memory effect”. This is a term used to describe the performance of a battery that has regularly only been partially discharged before recharging and seems to “remember” where it previously stopped discharging. When the battery reaches this discharge point, the voltage drops prematurely and the radio gives a “low battery” indication. Consequently, the battery only operates with a reduced capacity. While NiMH batteries suffer less from memory effect, it is recommended that both types of battery be subjected to regular full discharge and charge cycles, as outlined in “Battery Use” above.

A battery suffering from memory effect can often be restored to full capacity by deep discharging using a suitable charger with an inbuilt discharge function (eg T3002). After discharge the battery will be immediately fast charged to capacity. In cases of severe memory effect it may take a number of discharge and charge cycles to restore the battery to full capacity. See your charger manual for full instructions. Alternatively, the battery can be returned to your dealer or service agent for reconditioning using an approved battery analyser/reconditioner.

The performance and lifetime of both types of batteries may also be reduced by prolonged overcharging. NiMH batteries are most prone to damage from overcharging, but NiCd batteries can also have their life reduced.

Under certain environmental conditions, the terminals on the battery may exhibit tarnishing. This in turn may lead to unreliable operation, either while in use or during charging. Typical symptoms might be that the radio turns itself off for no apparent reason, or that it fails to charge properly. The tarnish can be seen as a dull discolouration on the terminal, which prevents it from connecting effectively to the radio or charger. In such cases, it is recommended that the tarnish be removed by gently rubbing the affected terminals with a standard pencil eraser.

Battery Storage

Avoid storing the battery for extended periods without first fully recharging it. After prolonged storage the battery should be fully recharged in accordance with the instructions for new batteries (see “New Batteries” above) before being put back into service. If initially you experience lower than normal battery capacity, this will usually correct itself in normal use after two to five full charge and discharge cycles.

If the battery capacity remains low, you may be able to restore it using the procedure outlined in “Battery Problems” above. If not, it is probably nearing the end of its useful life and needs to be replaced.

Disposal of Used Nickel Cadmium Batteries

NiCd batteries contain a small amount of the metal Cadmium, which can produce potentially toxic waste if it is not disposed of correctly. When no longer in use, you should ensure that your NiCd battery is properly disposed of. Contact your local Tait sales/service outlet or dealer for details of where to send your “spent” battery for recycling. Do not burn or break the battery.

Optional Accessories for the T3000II range of radios

- Remote speaker / microphone
- Trickle Charger
- Single Fast Charger
- Dual Rapid Charger
- Multi-way Rapid Charger
- Vehicle Adaptor
- High Capacity Battery Pack
- CTCSS Module
- VOX Module

See your Tait dealer for more details

Tait Electronics has made every effort to ensure the accuracy of information in this manual. However, Tait Electronics reserves the right to update the radio and/or this manual without notice.

TAIT ELECTRONICS LIMITED

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